

MONTHLY WEATHER REVIEW,

DECEMBER, 1877.

WAR DEPARTMENT,

Office of the Chief Signal Officer,

DIVISION OF

TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGRICULTURE.

:(o):

INTRODUCTION.

In compiling the present REVIEW the following data, received up to January 14th, have been made use of, viz: the regular tri-daily weather charts, containing the data of the simultaneous observations taken at one hundred and twenty-eight Signal Service stations and twelve Canadian stations; monthly journals and means from one hundred and thirty-four of the former, and means from thirteen of the latter; two hundred and thirty-eight monthly reports from Volunteer Observers; forty-two monthly reports from United States Army Post Surgeons; Marine Records; reliable newspaper extracts; special reports. The most noticeable features for the month are: the severe storms Nos. II and XV; the small number of high pressure areas; the high average temperatures for all the districts; the heavy rains accompanying storms Nos. II, XI and XV; few auroras; frequency of lunar halos during the middle of the month.

BAROMETRIC PRESSURE.

In General.—A comparison of the isobarometric curves on chart No. II with the average for December for a number of years, shows the following, viz: for the present month the pressure, as reduced to sea-level, has averaged slightly below that for a number of years along the Pacific coast, in Utah, at Key West, in the Upper Mississippi and Lower Missouri valleys, and at Breckenridge 0.11 of an inch. For the Upper Lake region, Ohio valley, Tennessee and West Gulf States, it varies from slightly below to slightly above. In the East Gulf and Atlantic States and Lower Lake region, it averages above—at Oswego and Burlington, about 0.11 of an inch.

The local barometric ranges for the month have been as follows: *Large*—Norfolk, 1.50 in.; Eastport, 1.47; Cape Henry, 1.45; Atlantic City, Cape May and Cape Lookout, 1.41; Wood's Holl, 1.40; Newport, 1.35; Boston and New London, 1.34; Barnegat, 1.33; Portland, Me., Thatcher's Island, Wilmington and Smithville, 1.30; and from New England to eastern Tennessee and northern portions of Alabama, Georgia and South Carolina, the range has exceeded 1.20. *Small*—Los Angeles, 0.61 in.; Visalia, Cal., 0.62; Santa Fe, 0.63; Pioche, Nev., 0.65; San Francisco, 0.66; Salt Lake City, 0.68; Key West, 0.70; Sacramento and Pike's Peak, 0.73; Cheyenne, 0.76; Denver, 0.79; Red Bluff, Cal., 0.80; Winnemucca, Nev., and Boise City, Idaho, 0.81; Jacksboro, Texas, 0.82; Fort Gibson and Toledo, 0.86; Shreveport, 0.88; Indianapolis and Chicago, 0.89.

Areas of High Pressure.—Of these six have been traced and are described. This number is smaller than is usual for the month of December, and to which fact can be partly attributed the high average temperatures in the different districts. Two, Nos. IV and V, crossed the country north of the Lakes, and were accompanied in New York and New England by severe, cold weather. Four took a southerly path, producing high northwesterly winds and gales as they advanced south and eastward from the Rocky Mountain region, and in the Gulf States "northers."

No. I.—At 7:35 a. m., Washington time, of the 1st, this high-pressure area, (described as No. VI in the November REVIEW,) covered the Southwest; barometer, 30.48 inches at Shreveport, and 0.41 inch above the normal at Indianola. Excepting the southern portions of Texas and Florida, and from California to the western part of Washington Territory, the minimum temperature had fallen below freezing the preceding night over the whole country, and below zero from southeastern Dakota to the Red River of the North valley. During the day clear weather generally prevailed over the country east of the Rocky Mountains, excepting light snows from the Ohio and Upper Mississippi valleys to the Lakes. A second high-pressure area advanced southeastward toward New York and New England, and united with it at night. Morning